

Economic and Revenue Forecast Process

Presented to
Executive Cabinet Deputy Directors

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Olympia, Washington



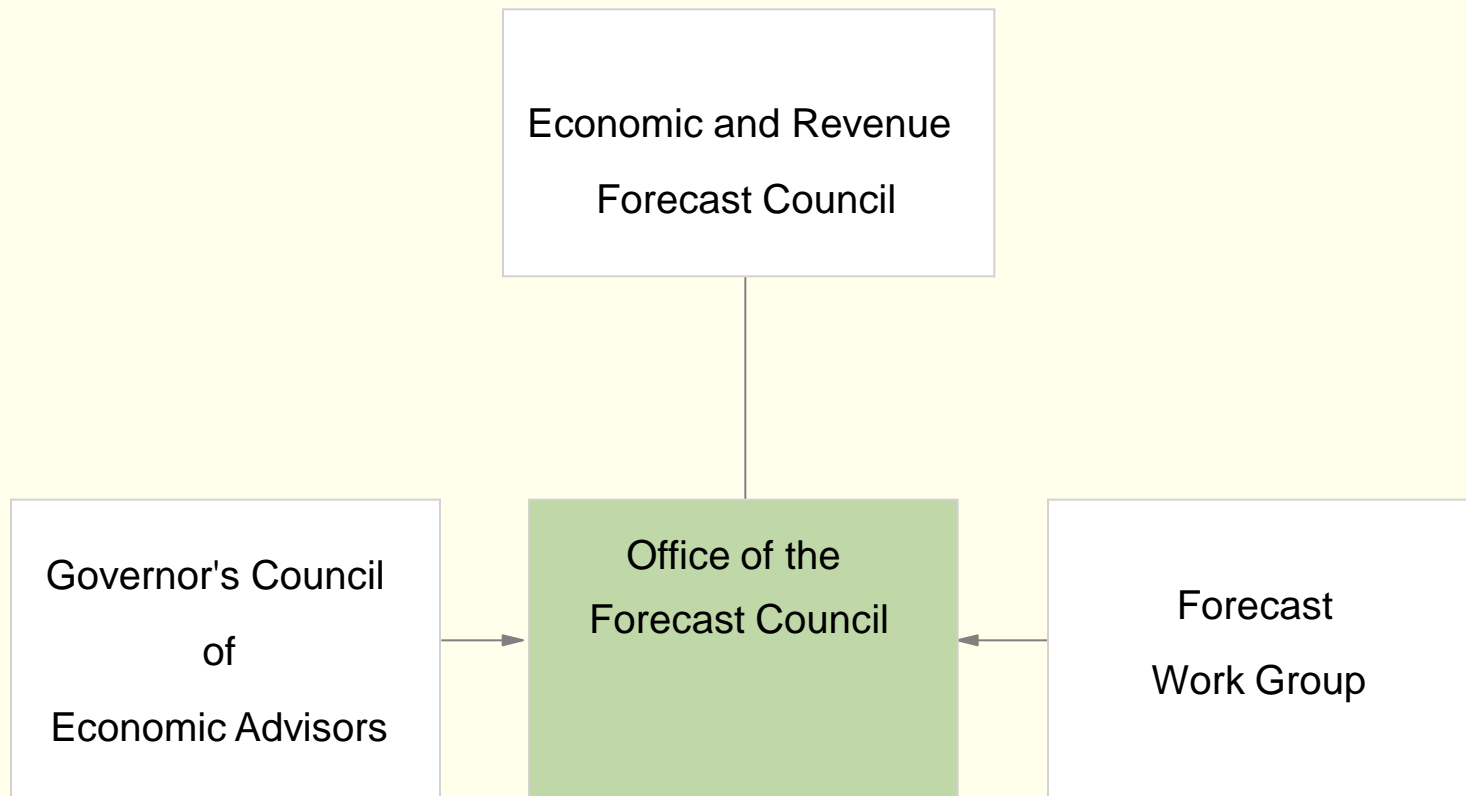
WASHINGTON STATE
ECONOMIC AND REVENUE FORECAST COUNCIL



Forecast Oversight

ERFC

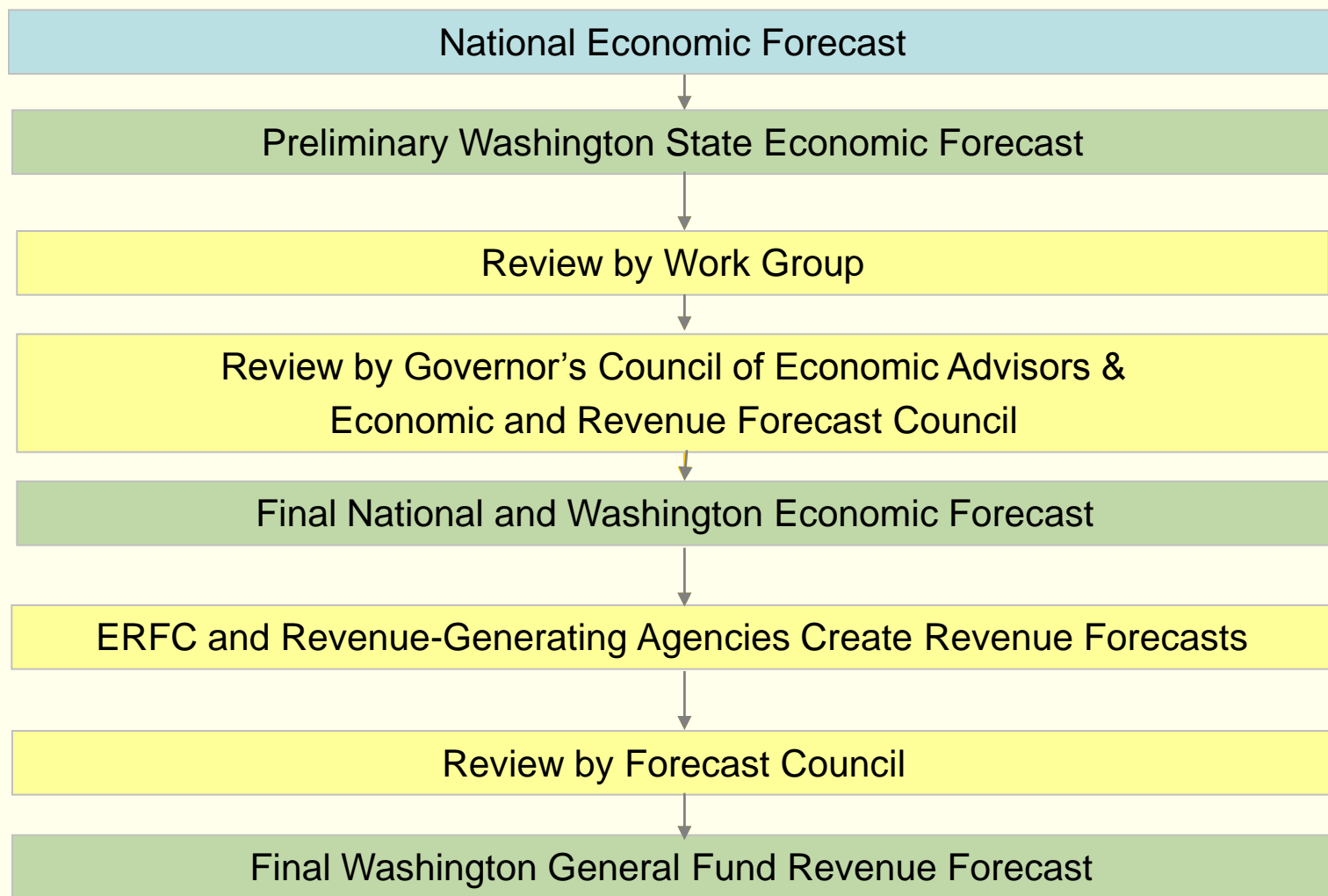
- Council hires Executive Director for three year term
- Director hires staff
- Total staff of five





ERFC Forecast Process

The national economic forecast comes from resolving Global Insight's national model with the Blue Chip Consensus GDP forecast and futures prices for oil.



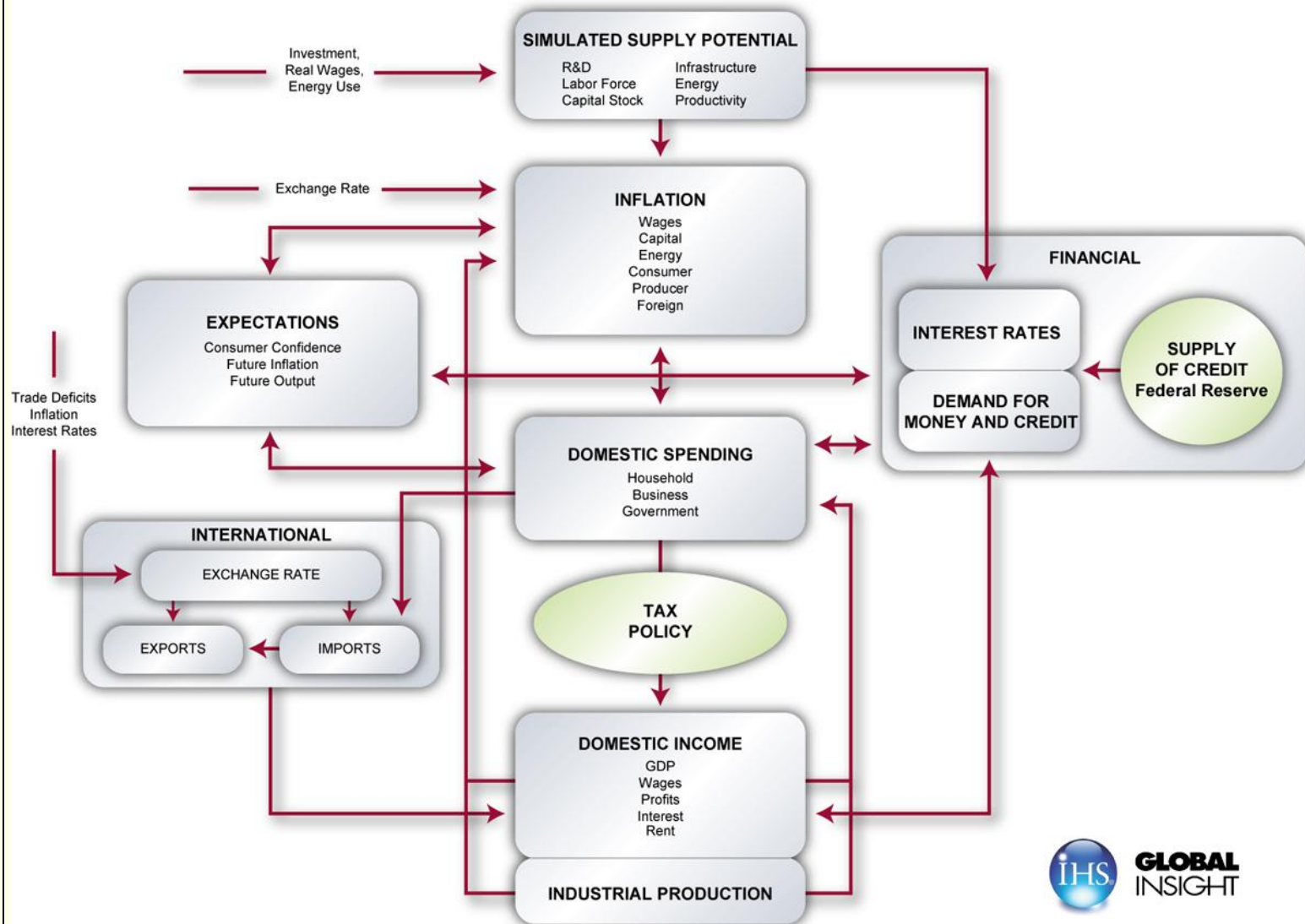
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U.S. Macro Model Overview

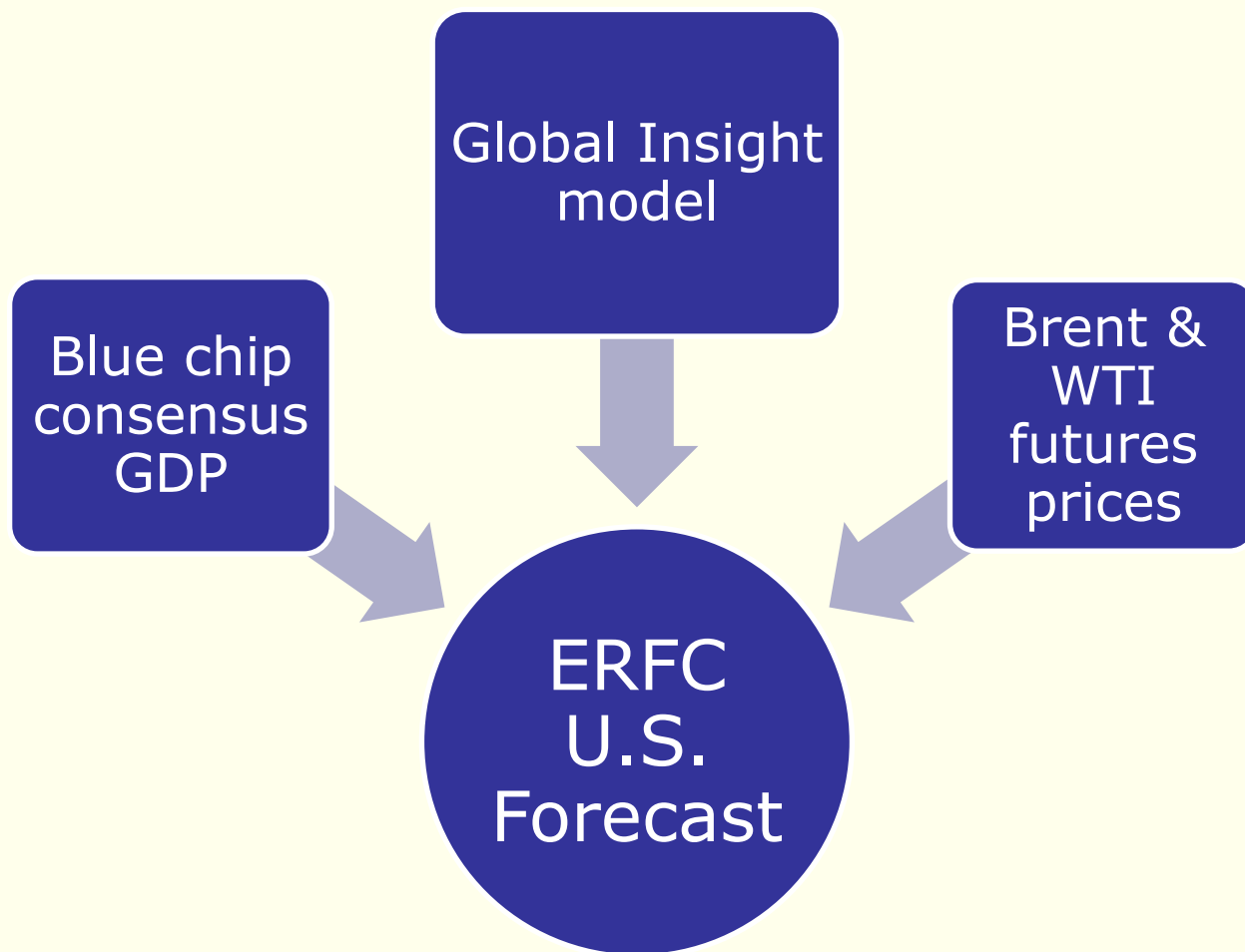
Model captures full simultaneity of U.S. economy

Output, employment, incomes, prices, interest rates, international trade, industrial detail, etc.





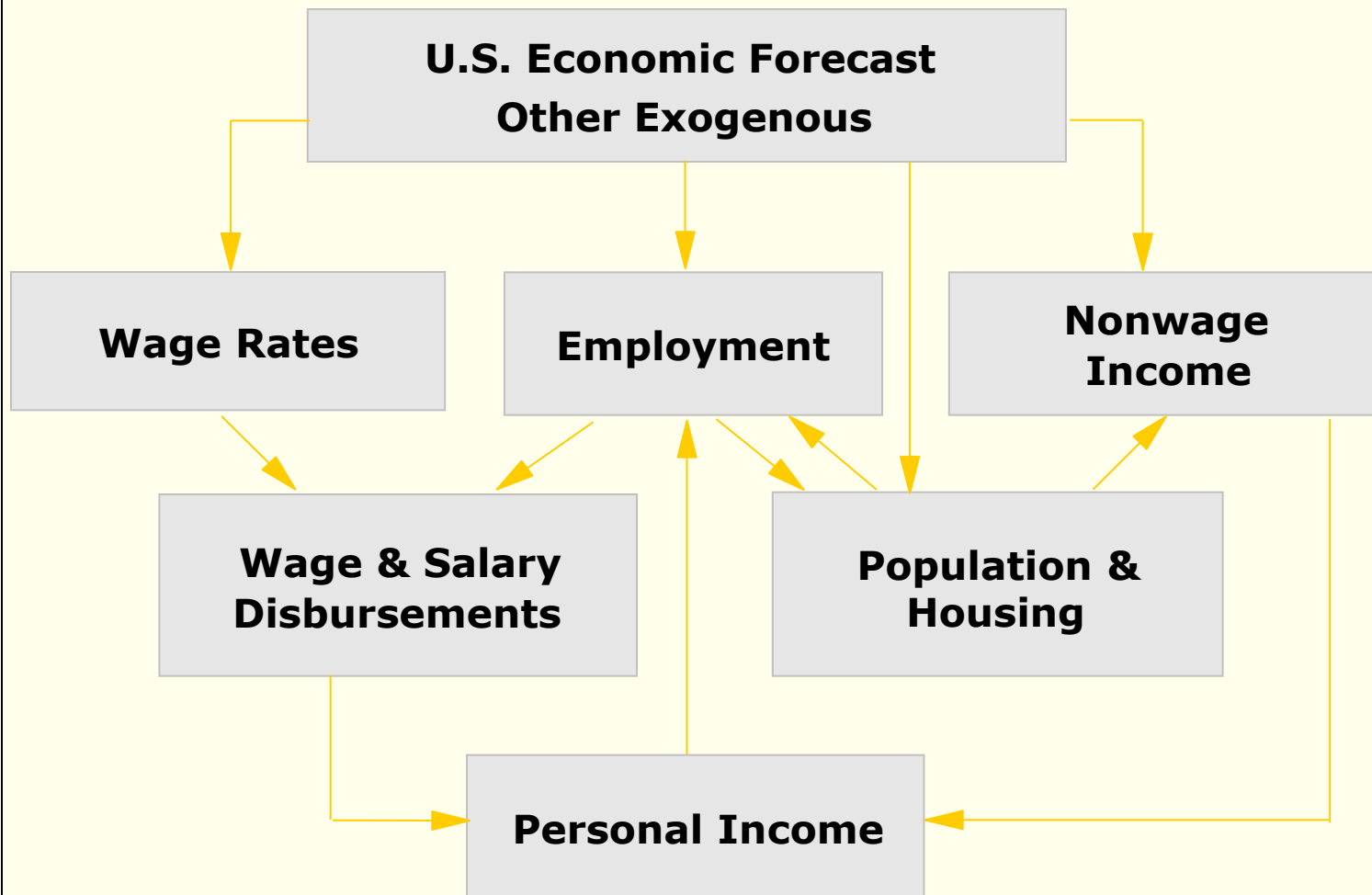
ERFC's US economic model





ERFC's Washington economic model

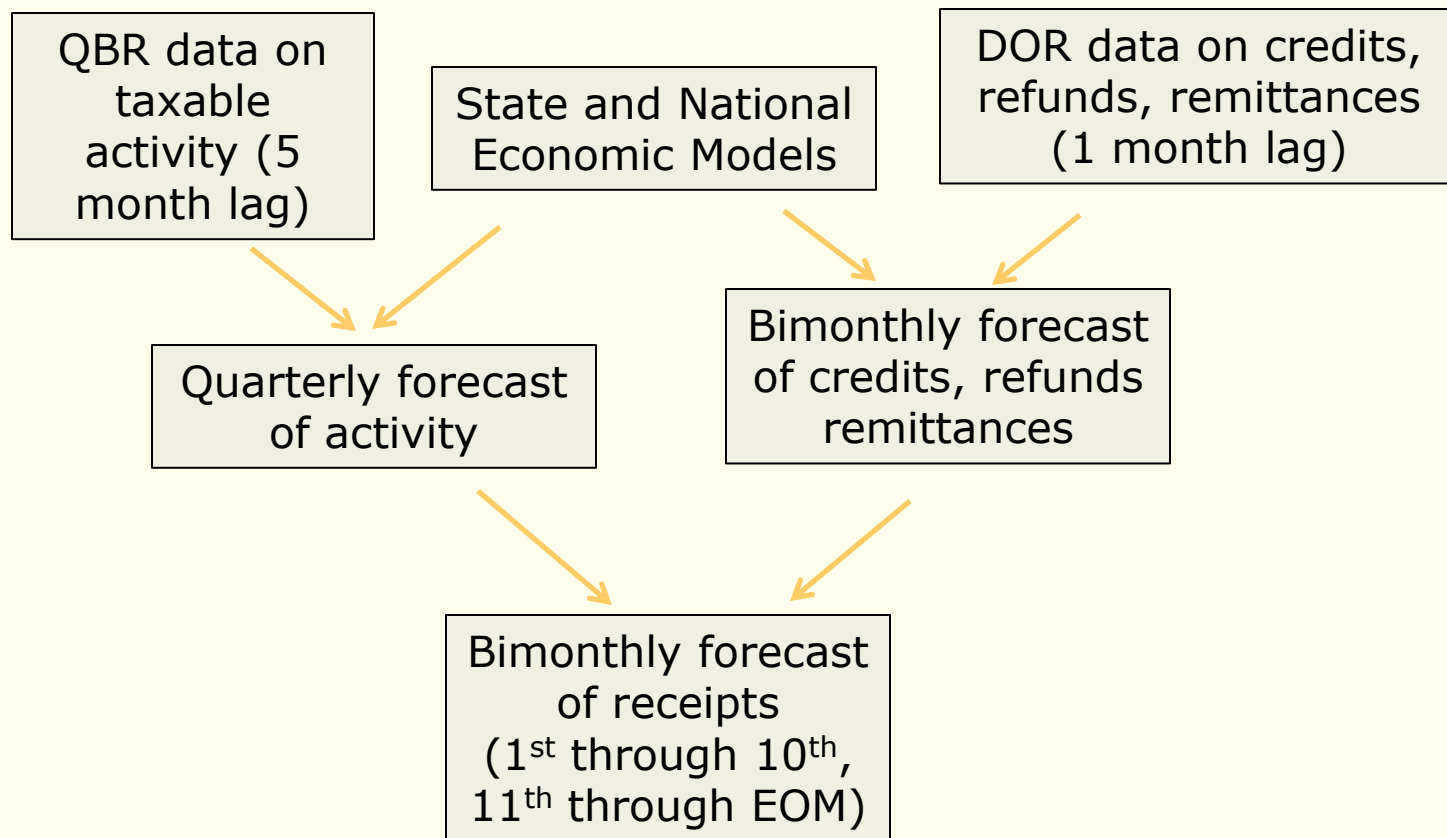
This model was reviewed by Global Insight in 2007-08





Revenue Act model overview

B&O, RST, Use and Public Utility are broken into 40 components (some small sources like semiconductors and nuclear waste disposal are forecasted exogenously)





Other Large DOR Revenue Sources

- Property Tax: Forecast based upon:
 - Forecasted inflation rate vs. statutory maximum levy growth factor of 1.0%
 - Forecasted value of new construction
 - Forecasted value of existing property
- Real Estate Excise Tax: Forecast based upon:
 - Forecasted number of house sales
 - Forecasted value of new and existing homes
 - Forecasted construction activity



Other Agency Forecasts

Forecasts produced by other agencies but incorporated into ERFC forecast

- Insurance Commissioner – premiums taxes
- State Treasurer – interest earnings
- Department of Licensing – licenses, excise taxes, fees
- OFM – miscellaneous fees, taxes, fund transfers

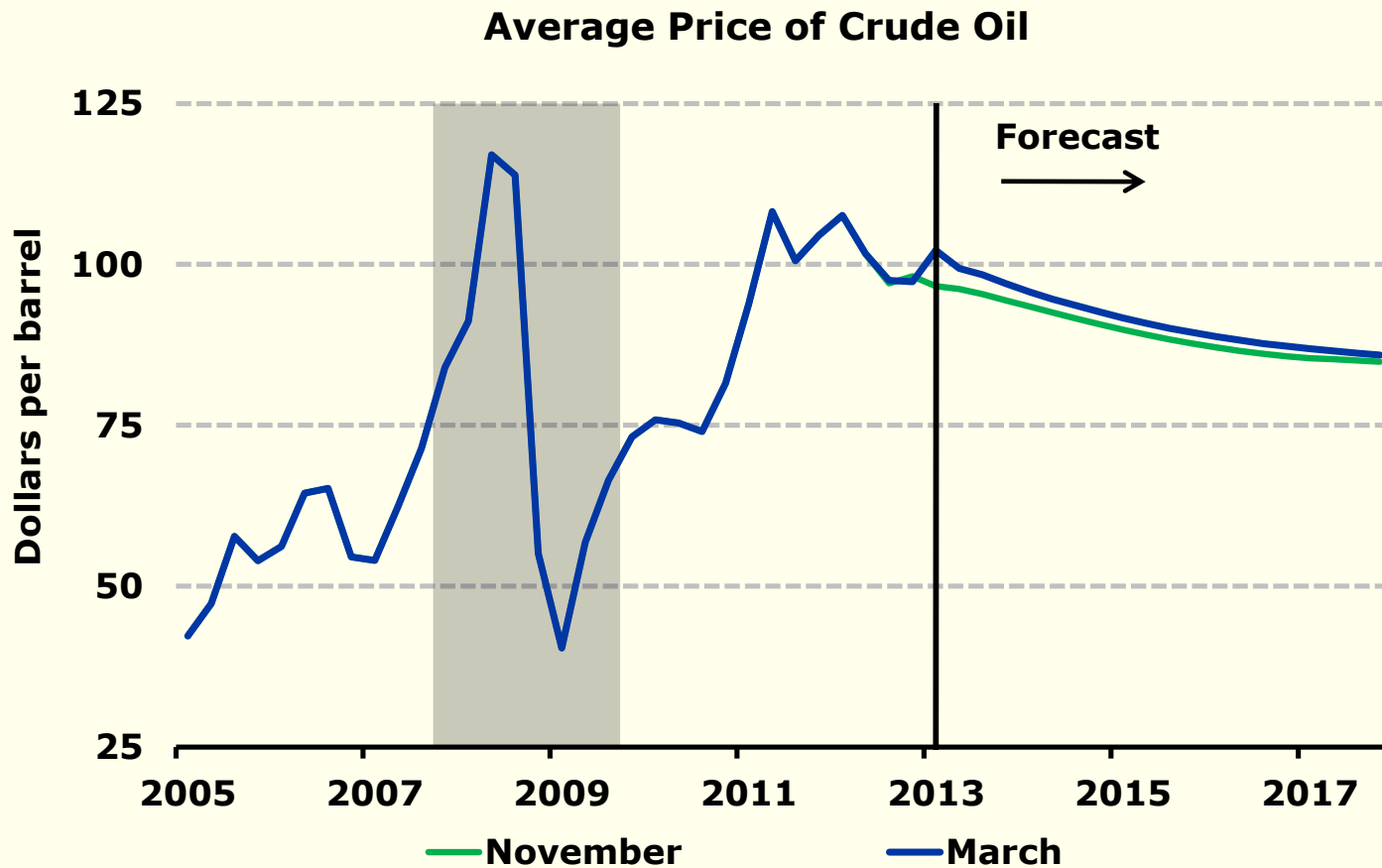


Interpreting forecast information

- Forecasts rely on historical data patterns and relationships
- Forecasts require assumptions
- Forecasts are “point estimates” – there is an associated margin of error
- Size of forecast changes is relative: 1% error is pretty good but equals \$326 M for 2013-15 biennium



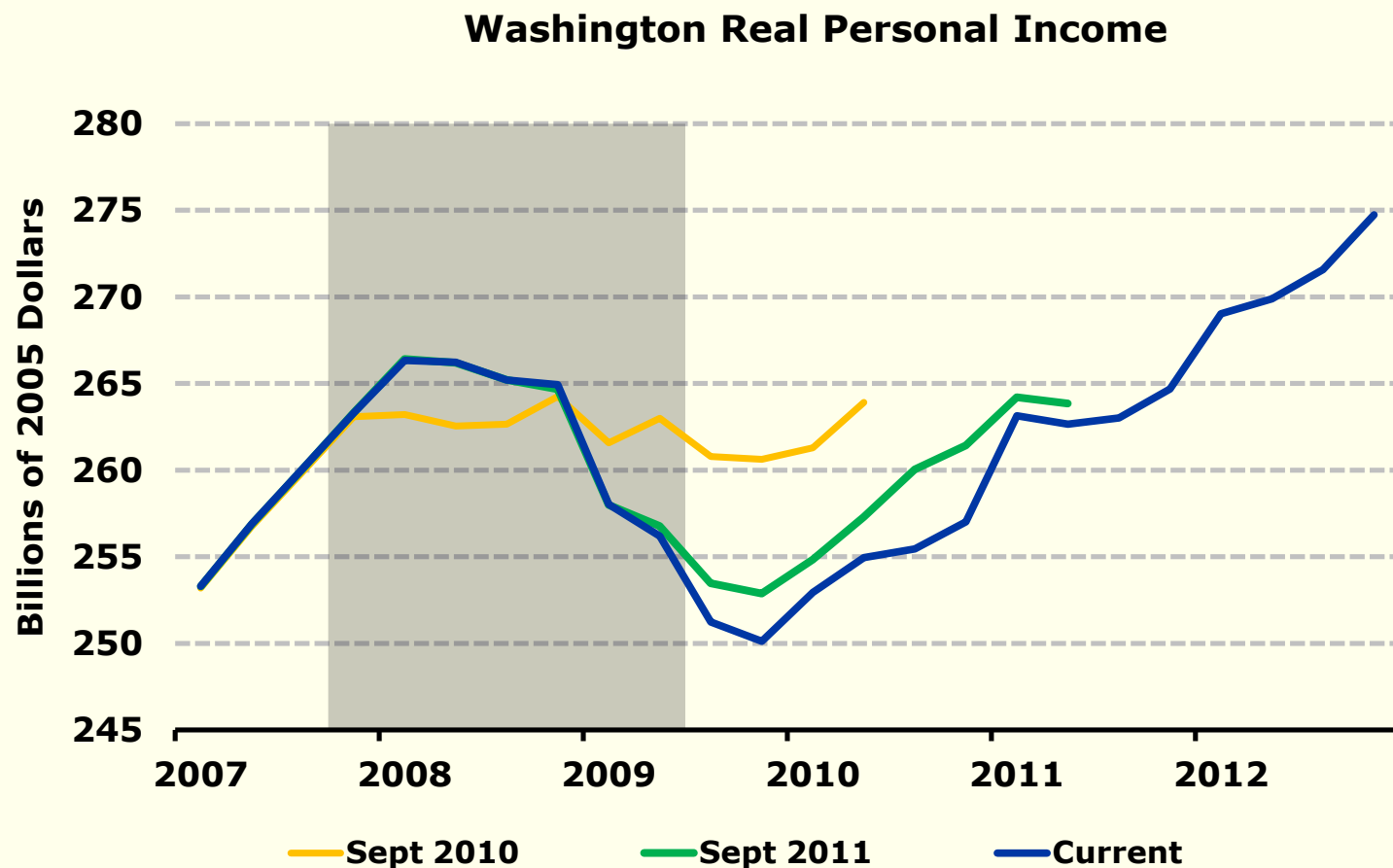
Oil prices: use futures markets instead of a model



Source: Department of Energy, ERFC March 2013 forecast; historical data through 2013Q1



Data revisions create forecasting difficulties



Source: BEA; data through 2012 Q4

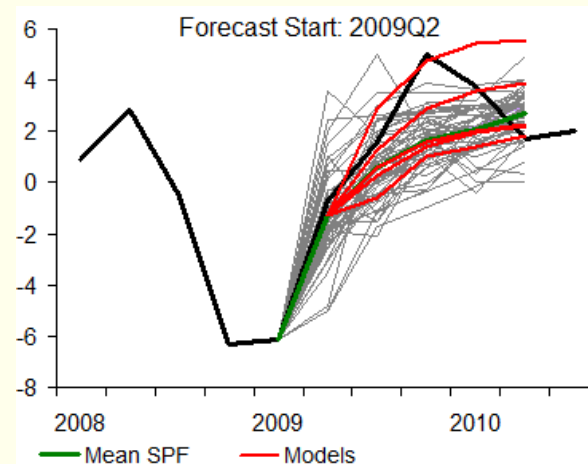
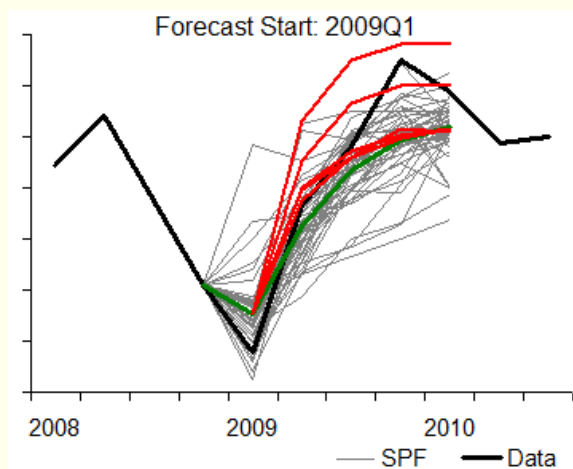
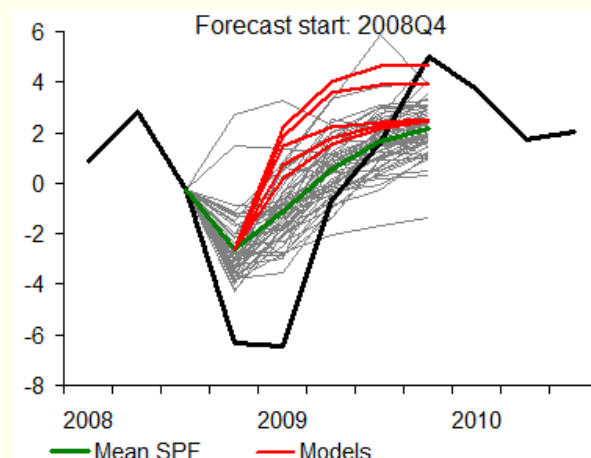
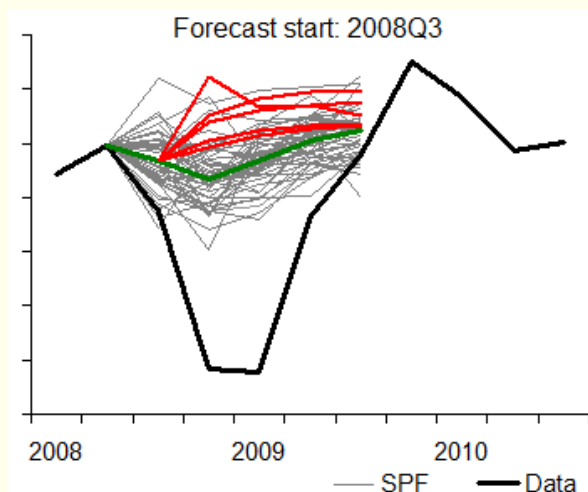
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When it came to the Great Recession, forecasters were all in the same boat

Two German economists put together a database of 50 economic models, including models that are used at institutions like the IMF, ECB and the Fed, and in academia

These are forecasts of real GDP growth produced by the models based on the data available at the given dates compared to the actual growth through 2010





Forecast errors: economic vs. revenue model?

Forecast Analysis: Major Tax Sources, 2009-11 Biennium, \$ Millions

(Retail sales, business & occupation, use, public utility, real estate excise)

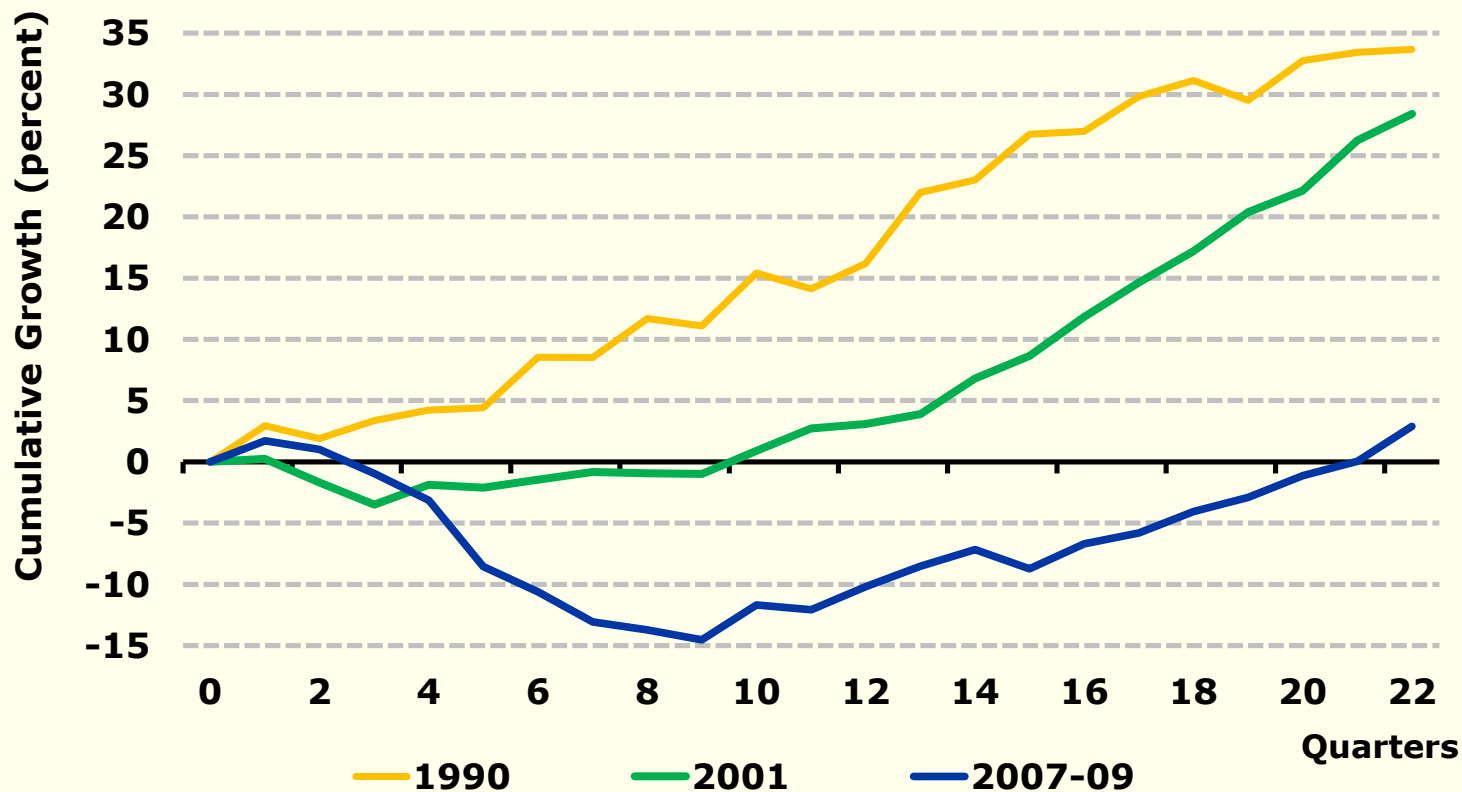
<u>Forecast Date</u>	<u>Actual Forecast*</u>	<u>Forecast w/ June 2011 Economic Data*</u>	<u>Actual Collections less Amnesty</u>	Forecast Error		
				<u>Total</u>	<u>Economic</u>	<u>Other</u>
Nov-08	25,422	21,608	20,801	4,621	3,814	807
Nov-09	22,999	21,311	20,801	2,198	1,688	510
Nov-10	21,134	21,314	20,801	333	(180)	513

*Corrected for subsequent non-economic changes excluding amnesty program



Revenue collections have been weak compared to past recoveries

Revenue Act Collections after Business Cycle Peak

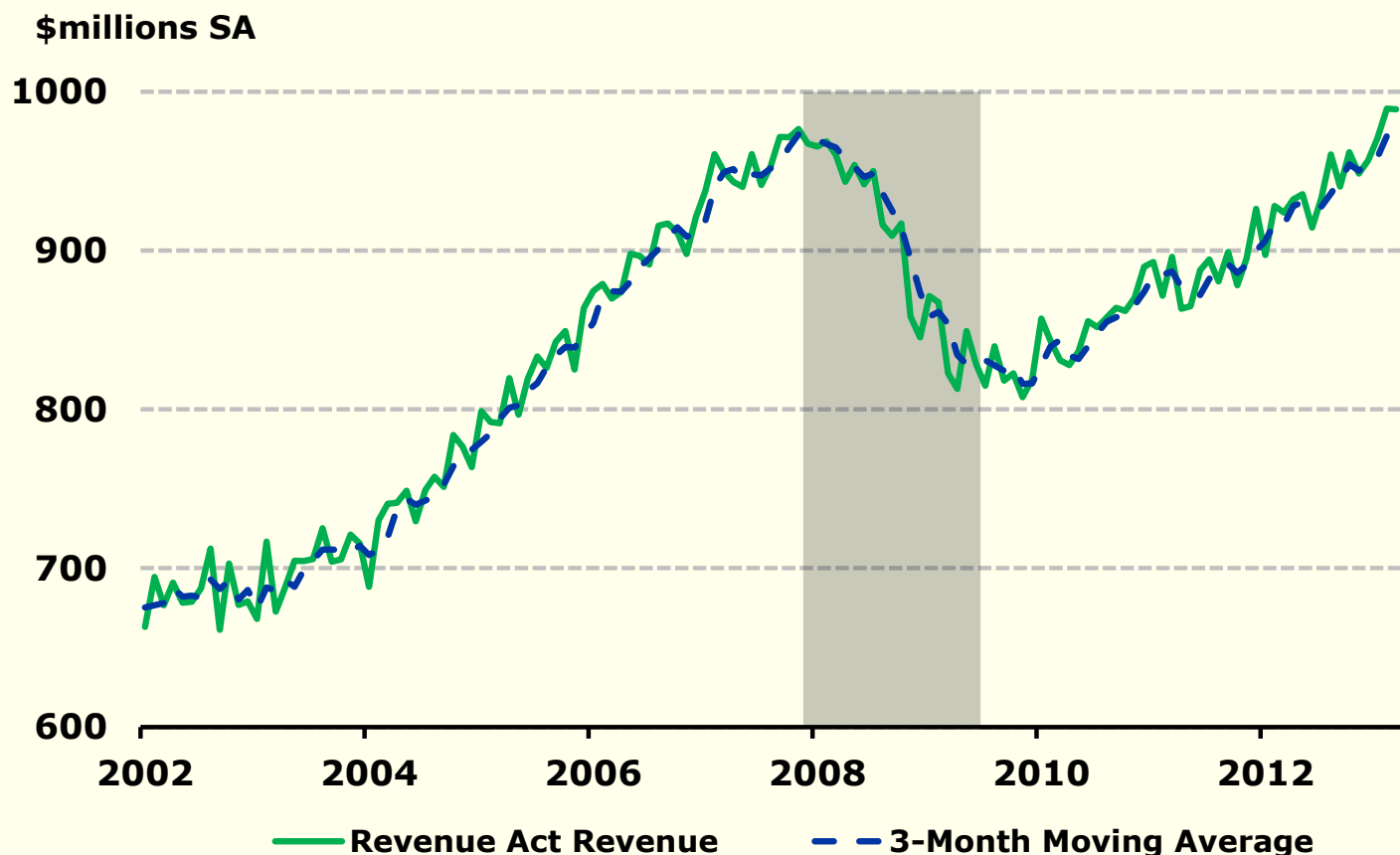


Source: ERFC; data through 2013 Q1



Revenue Act collections are on an upward trend

Collections were up 7.1% year-over-year for first quarter 2013 activity (February 11, –May 10, 2013 collections)



* Adjusted for large one-time transactions, amnesty payments and reporting frequency change, current definition of Revenue Act

Source: DOR and ERFC; monthly data through estimated March 2013 activity

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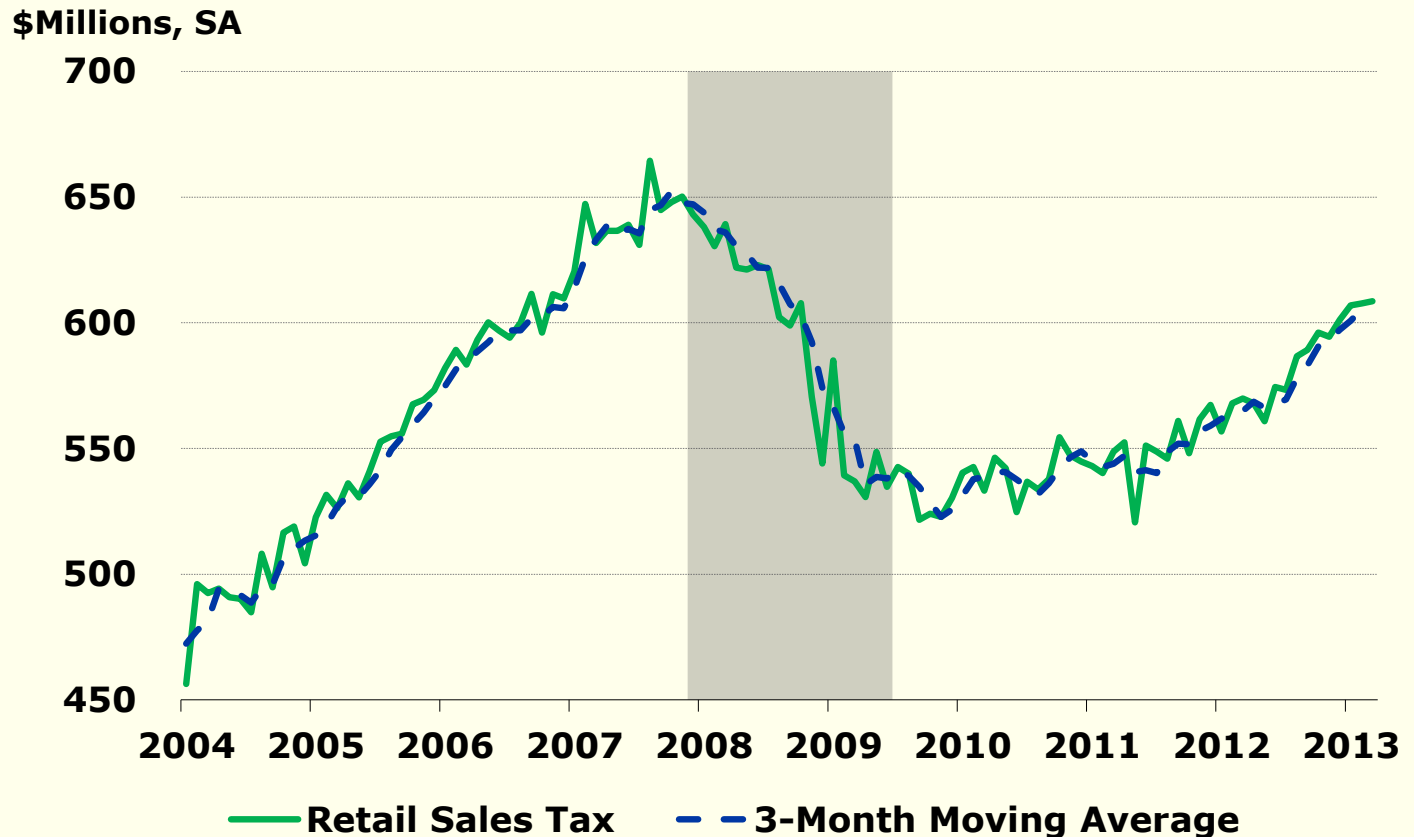


WA sales tax growth improved in the first quarter of 2013

Sales tax collections were up 7.5% year-over-year for first quarter 2013 activity (February 11, – May 10, 2013 collections)

Collections for fourth quarter 2012 activity were up 5.9% year-over-year

Washington Retail Sales Tax Receipts



Adjusted for large payments/refunds, amnesty payments and taxpayer reporting frequency change
Source: ERFC; Monthly data through March 2013 preliminary activity

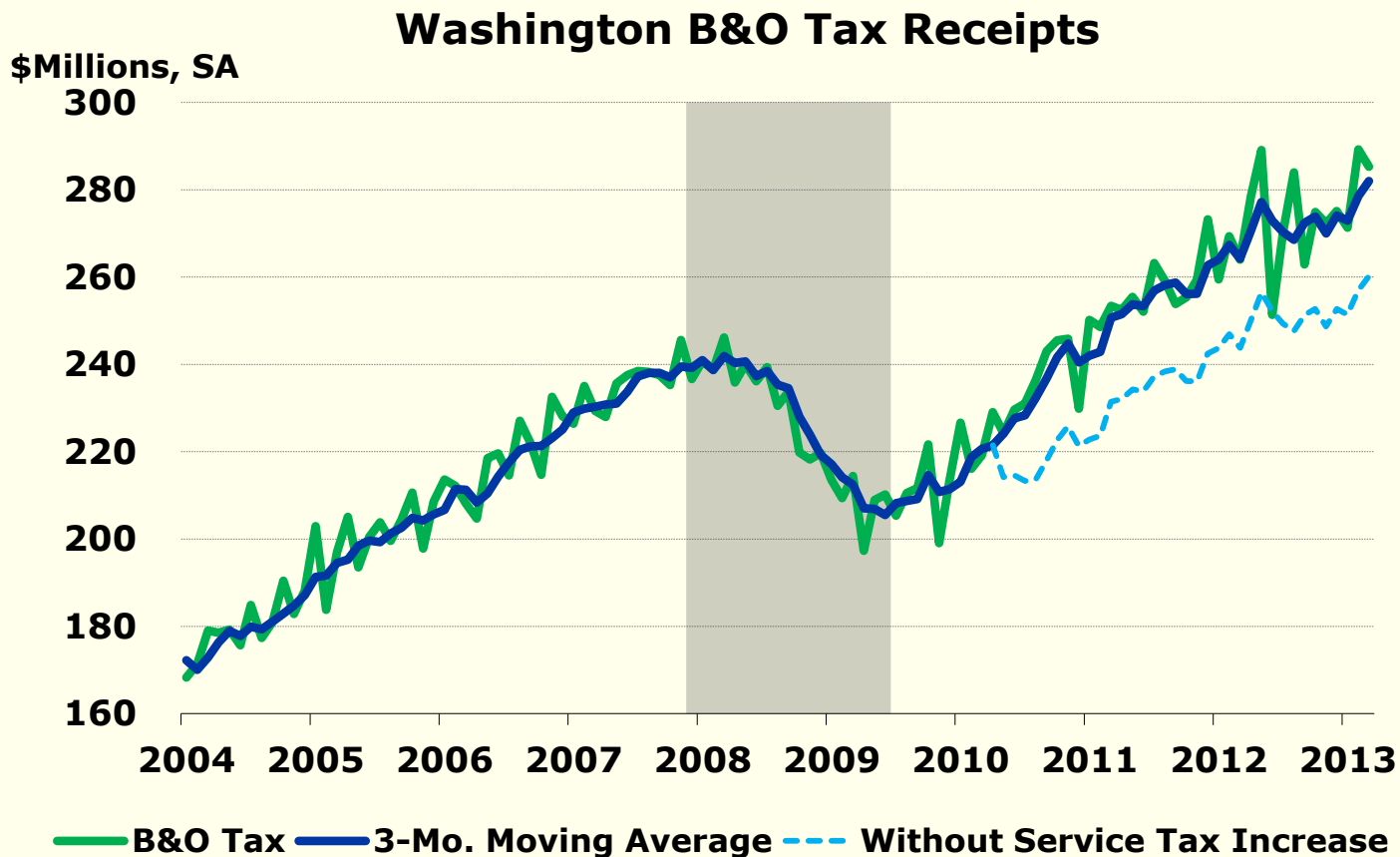
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B&O tax growth also improved in the first quarter

B&O tax collections were up 9.1% year-over-year for first quarter 2013 activity (February 11, – May 10, 2013 collections)

Collections for fourth quarter 2012 activity were up 7.6% year-over-year



Source: ERFC; Monthly data through March 2013 preliminary activity
Adjusted for taxpayer frequency shift, amnesty payments, and recent large refunds

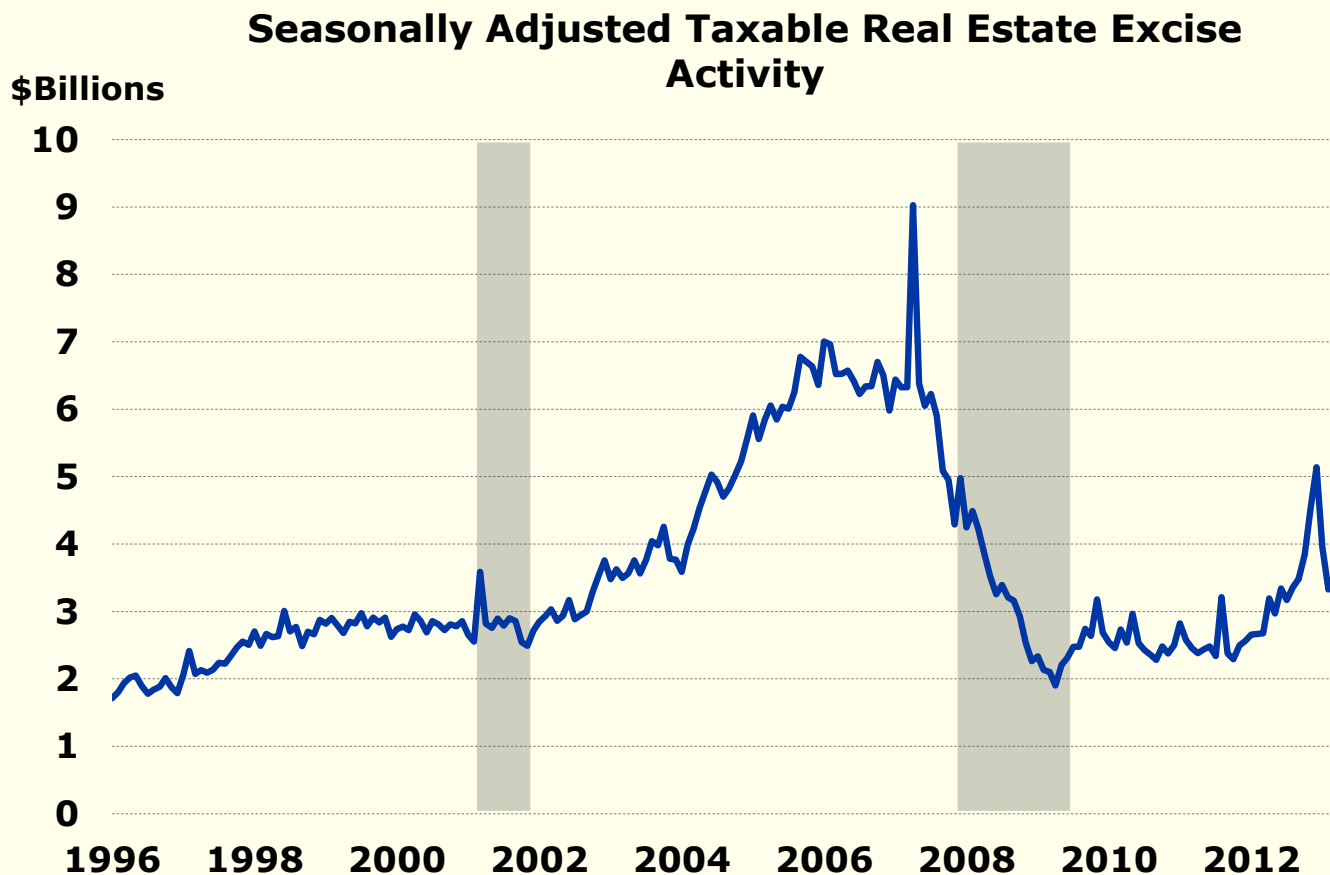
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REET still showing growth after end-of-year rush

2012 real estate sales were elevated due to the incentive to claim capital gains before taxes increased in 2013, with a particularly large rush at the end of the year.

Sales since the rush have been stronger than expected but a current shortage of houses for sale might limit short-term growth.

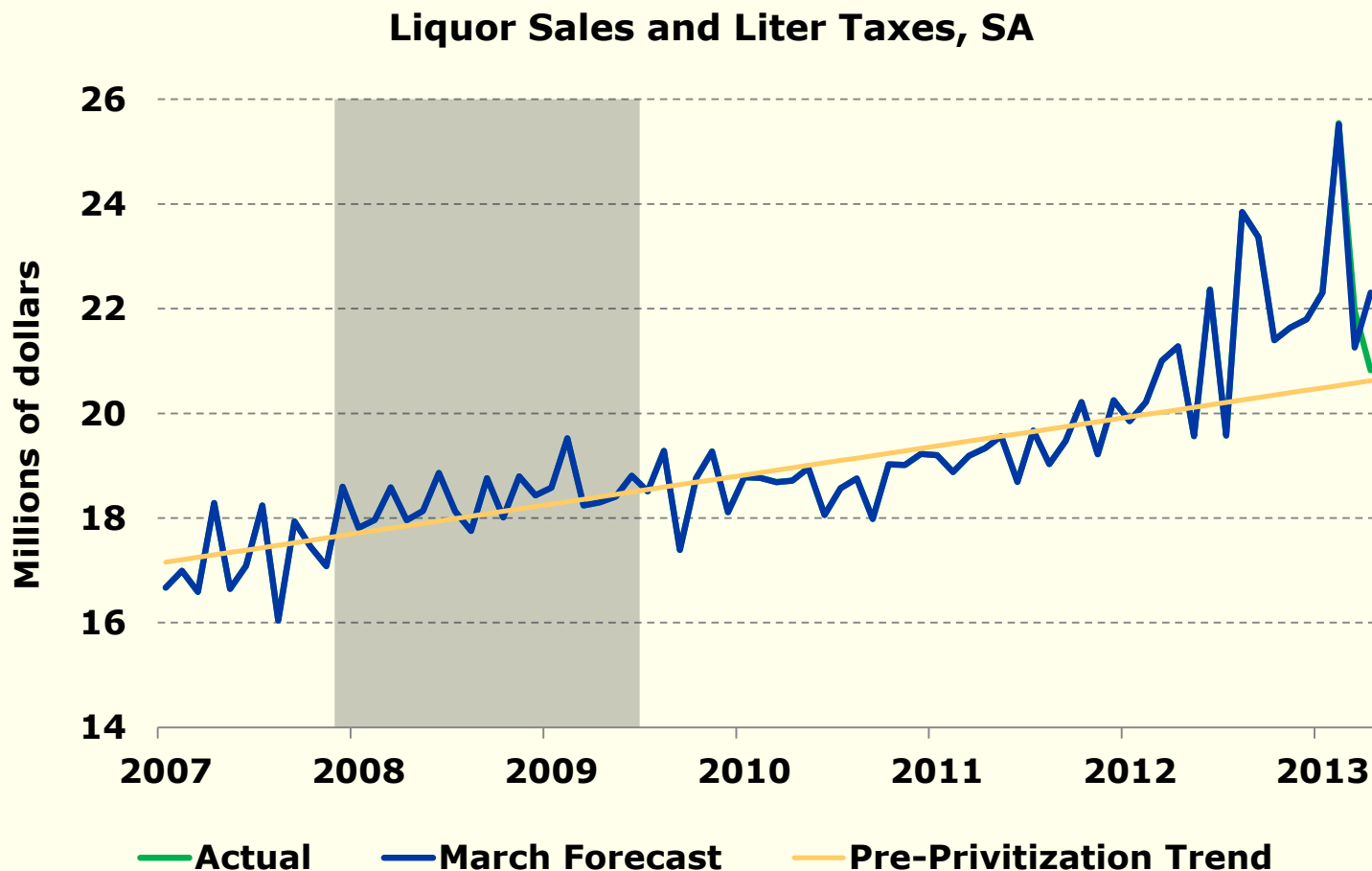


Source: ERFC; Monthly data through April 2013 preliminary



Revenue for liquor sales has been volatile recently

Revenue was \$0.8 million (2.1%) below the March forecast



Source: DOR, ERFC; data through April 2013

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Forecast changes: General Fund State, 2011-2013 Biennium

**November
Forecast:**

**\$30,477
million**

**USD
millions**

March Forecast

	<u>Collection Experience</u>	<u>Forecast Change</u>	<u>Forecast</u>	<u>Total Change*</u>
Dept. of Revenue	\$126	(\$53)	\$28,925	\$73
All other agencies	(\$0)	(\$14)	\$1,611	(\$14)
Total GF-S	\$125	(\$67)	\$30,536	\$59

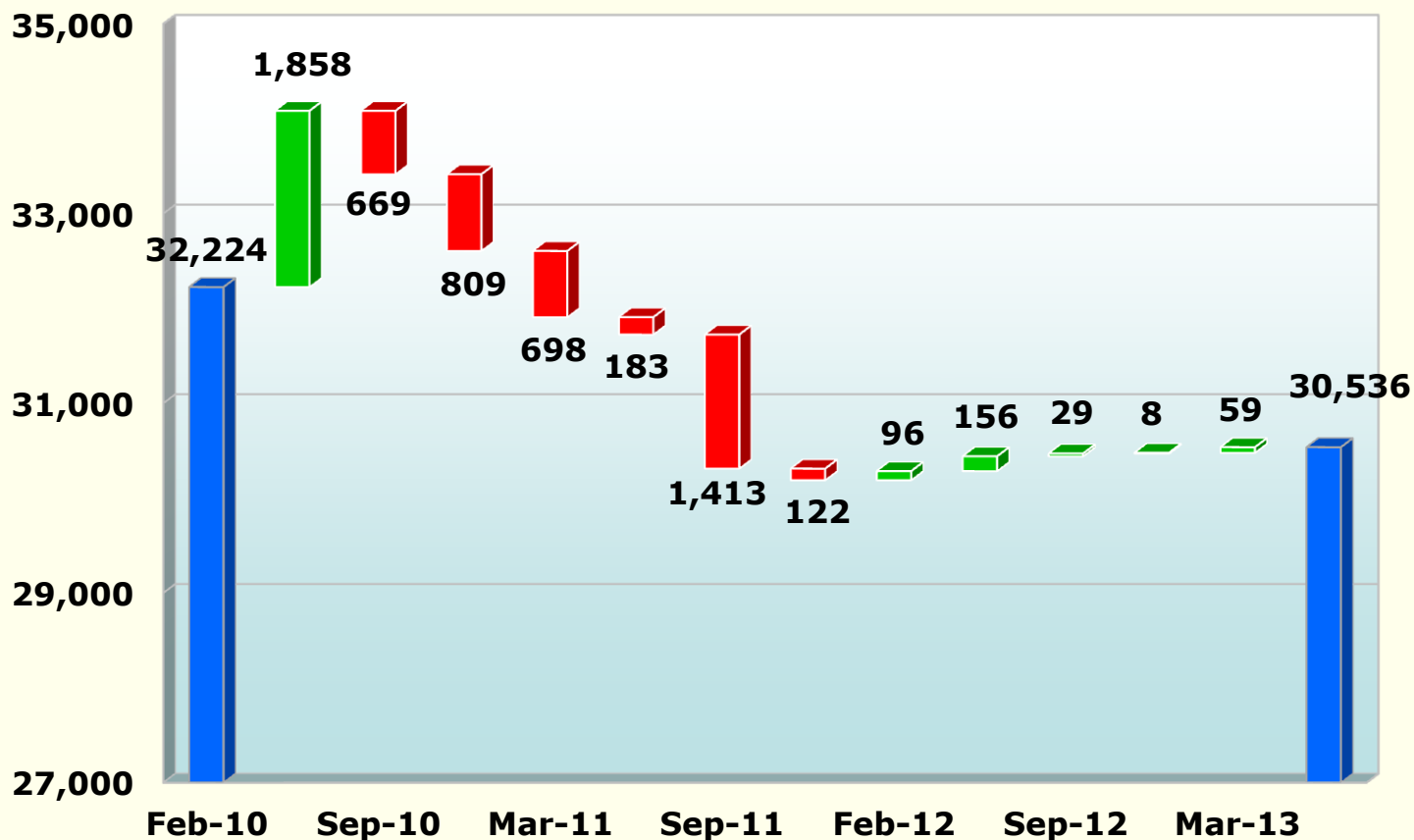
* Detail may not add to total due to rounding



Forecast revisions to the 2011-13 biennium

GF-S
New
Definition

USD, millions



Source: ERFC March 2013 forecast

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Forecast changes: General Fund State, 2013-2015 Biennium

**November
Forecast:**

**\$32,561
million**

**USD
millions**

March Forecast

	<u>Non- economic Change</u>	<u>Forecast Change</u>	<u>Forecast</u>	<u>Total Change*</u>
Dept. of Revenue	\$0	(\$38)	\$30,963	(\$38)
All other agencies	\$0	\$18	\$1,578	\$18
Total GF-S	\$0	(\$19)	\$32,541	(\$19)

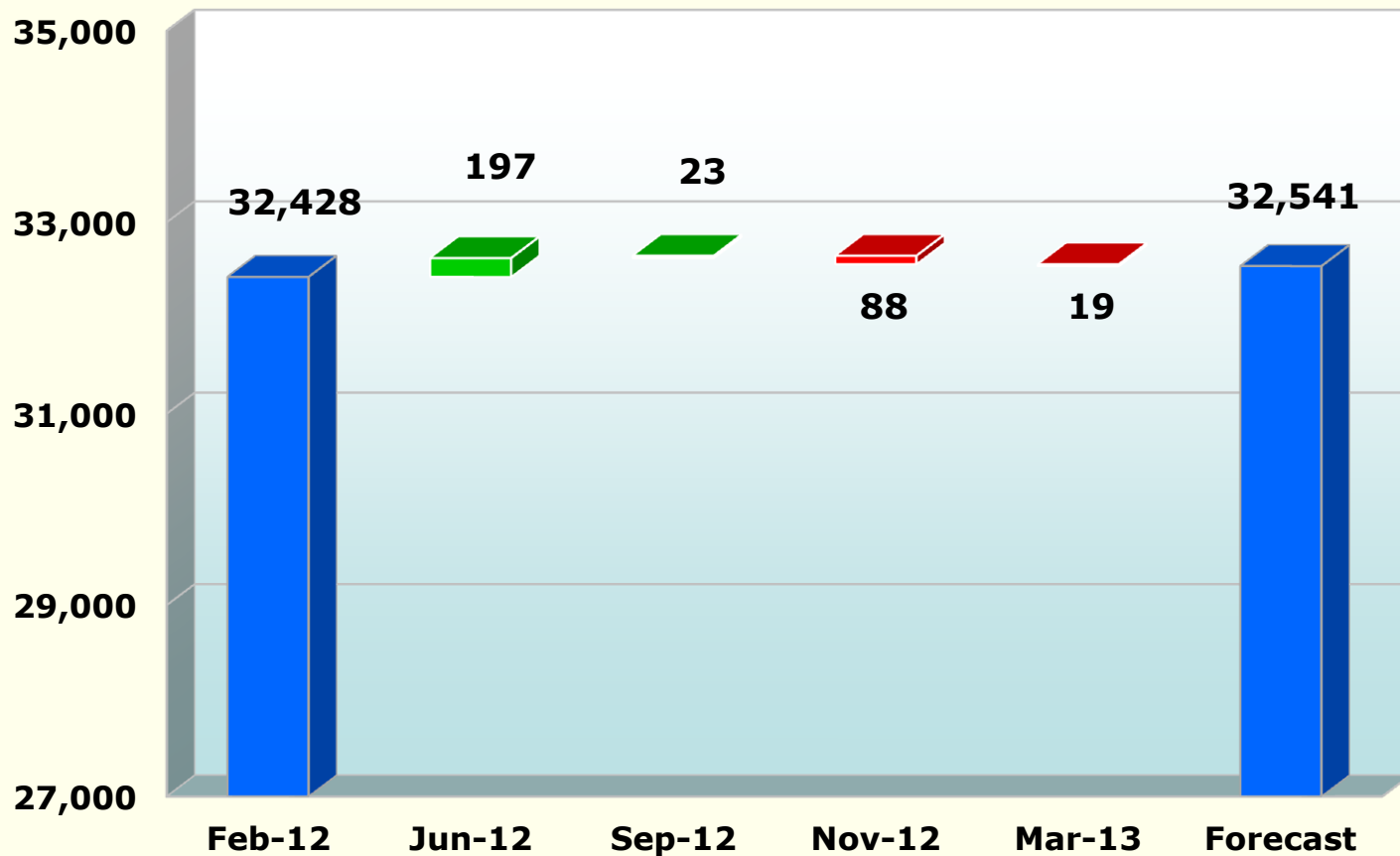
* Detail may not add to total due to rounding



Forecast revisions to the 2013-15 biennium

GF-S
New
Definition

USD,
millions



Source: ERFC March 2013 forecast



Revenue collections to date

Cumulative Variance Since March Forecast (March 11 – May 10, 2013) dollars in thousands

	<u>Estimate</u>	<u>Actual</u>	<u>Difference</u>	<u>Pct.</u>
Dept. of Revenue	\$2,130,815	\$2,217,580	\$86,764	4.1%
All other agencies	\$18,903	\$18,530	(\$373)	-2.0%
Total GF-S	\$2,149,718	\$2,236,110	\$86,392	4.0%
Excl. Special Factors*	\$2,149,718	\$2,187,749	\$38,031	1.8%

*Large audit payment and early property tax payments